Aging Muscles Inhibit Stem Cells, Prevent Repair

Posted: June 15, 2008

Created: 15/06/2008 - 11:39

Researchers at UC, Berkeley identified a signaling molecule that interferes with the ability of older skeletal muscle to regenerate. After injury, adult skeletal muscle regenerates by activating muscle stem cells that fuse with the existing muscle cells to repair the damage. This ability to regenerate diminishes with age, not because of a decline in the number of resident stem cells, but because stem cells in the older muscle don't respond when damage occurs. It turns out that older muscles release molecules that actively inhibit the resident stem cells. In this study, the team identified one of those molecules and showed that interfering with that molecule's function restores the ability of muscle in older mice to regenerate after injury. This research illustrates the potential for recruiting adult resident stem cells in tissue repair.

Nature: June 15, 2008.
CIRM funding: Morgan Carlson (T1-00007)

Related Information: Press release, Berkeley Stem Cell Center

Tags: aging, Training, Carlson, University of California Berkeley